

REMARKS

The courtesies extended to the undersigned attorney for applicants by Examiners Crowell and Alejandro during an interview on May 27, 2003 are noted.

Prior to the interview, attorney for applicant sent Examiner Crowell a translation of Kiyoshi, the Japanese reference the Examiner was relying on as a reference in abstract form.

At the beginning of the interview, some housekeeping matters were resolved. Because there is no current rejection based on 35 U.S.C. 112, paragraph 2, the Examiners agreed the Office Action should have indicated claims 20-23 are allowed and claims 17 and 18 are objectionable. The Office Action also should have indicated claims 26 and 27 have been withdrawn from consideration because these claims are non-elected claims. Applicant cancels claims 26 and 27, without prejudice, with the right to file a divisional application thereon. (1)

Claim 11 has been amended to include limitations similar to those included in claim 31. Claim 17 has been amended to include the limitations of claim 11, as previously written, and claim 12, upon which claim 17 depended. Hence, claim 17 and claim 18, which depends on claim 17, are now considered allowable. (2)

Applicant submits herewith a Petition to require consideration of claims 1-10. As discussed during the interview, applicant is of the opinion that the limitations of method claim 1 and apparatus claim 31 are not independent and distinct from each other. It has long been held that a method which is capable of being performed by hand is not patentable merely because it is automated. The limitations of claims 1 and 31 are the same, except that in one instance, the claims are directed to a method and in the other instance the claims are directed to an apparatus for performing the method. (3)

During the interview, attorney for applicant pointed out that the subject matter of claims 11 and 31 is quite different from the subject matter of claims 26 and 28. The Examiners agreed that both sets of claims must now be considered in this application.

As indicated in the Interview Summary, neither Blalock nor Kiyoshi, the Japanese reference, discloses a controller for varying the total amount of the power applied to parallel coils. It is not at all clear from Blalock exactly what the computer controller does to the power supply. In any event, Blalock does not disclose a coil with plural windings, and in particular, does not disclose a controller for varying the total amount of power applied to plural parallel connected windings so that for different distributions of electromagnetic fields different amounts of total power are applied to the plural parallel connected windings, as previously required by claim 31 and as now required by claim 11. While the Japanese reference discloses a coil having plural windings, with variable capacitors connected in series with the windings for varying the current applied to the windings, there is no disclosure in the applied references of the combinations set forth by claims 11 and 31, wherein the current applied to the individual windings is controlled or is variable; further the applied references do not make the combinations of claims 11 and 31 obvious. By varying the power and the current, applicants are able to provide great versatility to the distribution of magnetic flux to plasma in a plasma processor. Such versatility is absent from the applied references. (5)

During the interview, Examiner Alejandro indicated that claims 11 and 31 were broad enough to cover the situation of different sources supplying the different windings of the coil with power. Attorney for applicants agreed with this interpretation of claims 11 and 31, but pointed out that the applied references failed to disclose such an arrangement. The Examiners agreed. (6)

Claims 25 and 28 distinguish over the art of record by requiring the source frequency and the lengths of the winding or windings to be such that there are no substantial standing wave current variations along the length of the winding or along the length of the windings. During the interview, attorney for applicants pointed out that Blalock discloses a coil and source that are completely opposite to the requirements of claims 25 and 28. In this regard, as pointed out during the interview, in Col. 4, lines 52-56 of Blalock states:

the voltage profile of the standing wave impressed upon the coil 34 is adjusted so as to locate regions of maximum capacitive coupling proximate to those regions of the window 38 which require the most cleaning.

Thus, Blalock indicates that the standing wave has sufficient variation that the amplitude thereof should be changed to achieve different capacitive coupling effects. In other words, this portion of Blalock et al. indicates that the maximum standing wave position is variable. This implies that there are substantial standing wave variations. Hence, Blalock is completely opposite from the subject matter that claims 25 and 28 define.

During the interview, the Examiners felt that the language employed in claims 25 and 28 was not sufficiently definite to distinguish over Blalock. Applicants cannot agree, and point to the Manual of Patent Examining Procedure, Section 2173.05(b), which says:

When a term of degree is presented in a claim, first a determination is to be made as to whether the specification provides some standard for measuring that degree.

In the present case, the specification, in discussing waveforms 90 and 92, Fig. 3, provides such a standard. Page 26, line 2- page 27, line 20, as well as waveforms 90 and 92, provide a standard for determining what applicants mean in connection with the wording of claims 25 and 28. In the prior art, the coil excitation was generally 13.56 Mhz. Such excitation resulted in substantial